

forests of the Amazon basin, although they are also found in the Brazilian Campos. They are not especially coastal types but their fruits are common in the beach drift of both coasts of tropical America, occurring on the beaches of the Pacific coast as far south as Punta Parinas, and here derived in all probability from the Guayas estuary by the action of small inshore counter currents, although it is conceivable that they might occasionally be brought down to the sea from the head waters of the Tumbes or Chira Rivers. However, their occurrence along the north Peruvian desert coast associated with unfilled and hence floatable nuts of the Ivory palm would indicate that the former origin was the more likely.

No other fossil species of *Astrocaryum* are known to me. A few years ago I described specimens of fruits from the Oligocene of Peru which I referred to that genus,² but subsequent collections proved them to belong to the related genus *Attalea* H. B. K.,³ which has about as many existing species and a somewhat similar geographical distribution. The fruits of the latter, however lack germinating pores and hence can be readily discriminated from the fruits of *Astrocaryum* when the material is well preserved.

The geological section on the Santa Elena peninsula of western Ecuador is much like that so thoroughly described by Olsson and Iddings in the northwestern coastal region of Peru, and the older Tertiary of the two regions has already yielded a number of identical fossil fruits. This number is likely to be much increased by more detailed collecting in the Ecuadorian region.

² Berry, E. W., U. S. Nat. Museum Proc. **70**: Art. 3. 1926.

³ Berry, E. W., Pan Amer. Geologist, **51**: 242, figs. 4-10. 1929.

ENTOMOLOGY.—*Four new North American species of Bassus Fabricius (Hymenoptera, Braconidae), with notes on the genotype.*¹
C. F. W. MUESEBECK, Bureau of Entomology. (Communicated by HAROLD MORRISON.)

In my treatment of the Nearctic Braconinae² I briefly summarized the situation concerning the status of the names *Bassus* Fabr. and *Microdus* Nees. The two being isogenotypic and *Bassus* the older name, *Microdus* must be suppressed. The continued European usage of *Microdus* for this group in the Braconidae and of *Bassus* for an ichneumonid genus evidently is due to a disregard of first genotype fixation, and to the acceptance of Westwood's designation (1840)³ of *Bassus laetatorius* Fabr. as type of *Bassus*, no notice being taken of the designation of *Ichneumon calculator* Fabr. by Curtis⁴ in 1825.

¹ Received April 26, 1932.

² Proc. U. S. Nat. Mus. **69**: Art. 16, 1927, 73 pp.

³ Intr. Mod. Class. Ins. **2**: 59. Gen. Syn. 1840.

⁴ Brit. Ent. **2**: 73. 1825.

BASSUS CALCULATOR Fabricius

Ichneumon calculator Fabricius, Suppl. Entom. System., 1798, p. 225.

Bassus calculator Fabricius, Syst. Piez., 1804, p. 98.

Since this species was only very briefly characterized by Fabricius, and since subsequent descriptions by other authors apparently have been based merely on material identified as *calculator* and not on the type, which is in the Natural History Museum at Kiel, Germany, the following notes taken from the type specimen are included here:

A female specimen labeled "21 calculator." Agrees with the characterization of *Bassus* in my paper on the Braconinae to which reference has already been made.

Length, about 6 mm. Face not rostriform, broad, smooth; antennae missing; temples narrow, receding; frons immargined; ocelli small; mesoscutum polished; notauli sharply impressed; scutellar furrow rather broad, with several foveae within; scutellum smooth; propodeum convex, closely rugulose; mesopleural furrow curved, foveolate; metapleura mostly smooth; areolet (second cubital cell) triangular, sessile; nervulus very slightly postfurcal; mediella a little shorter than lower abscissa of basella; subdiscoidella not distinct; abdomen scarcely as long as head and thorax combined; first tergite broadening gradually behind, longer than broad, shallowly but distinctly striate, without prominent longitudinal keels; a little faint longitudinal sculpture at base of second; remainder of dorsum of abdomen smooth and shining; ovipositor sheaths very nearly as long as body. Head black; thorax black, with pronotum, mesoscutum, scutellum, and mesopleura anteriorly, red; abdomen black; anterior and middle legs yellowish, their coxae piceous; posterior legs blackish, base of tibia yellow; wings weakly infumated, with a hyaline area across discocubital cell and extending into second discoidal.

Bassus petiolatus, new species

Closely resembling *californicus* Mues., but distinguishable by the more rostriform face, weakly sculptured propodeum, mostly reddish or reddish yellow abdomen, and more slender legs.

Female.—Length, 5 mm. Head strongly produced below; malar space nearly as long as eye and nearly vertical; clypeus long, less than one and one-half times as broad as long; a low ridge on frons between antennae and below median ocellus; temples narrow; ocell-ocular line not quite twice diameter of a lateral ocellus and shorter than postocellar line; labial palpus very slender, third segment nearly half as long as second; antennae 32-segmented, a little shorter than the body.

Thorax with notauli sharply impressed, finely punctate; mesonotal lobes and scutellum smooth; scutellar furrow foveate; propodeum strongly convex, without carinae, punctate, nearly smooth medially; sides of pronotum, and mesopleura, polished; mesopleural furrow long, nearly complete, finely foveolate; metapleurum punctate; radial cell on wing margin only about one-third as long as stigma; areolet minute, long-petiolate; mediella about equal to lower abscissa of basella; posterior tibia unusually slender on basal half, scarcely thicker at middle than at base, but distinctly enlarged apically; longer calcarium of posterior tibia hardly more than one-third as long as metatarsus.

Abdomen narrower than thorax; first tergite more than one and one-half times as long as broad at apex, without longitudinal keels, and smooth and

shining except for a little faint reticulation medially; remainder of abdomen polished, second tergite longer than third and with a very weakly indicated curved transverse impression at middle; ovipositor sheaths slightly longer than body.

Head and thorax black; abdomen reddish yellow, with first tergite more or less blackish; wings uniformly infumated; legs mostly yellowish; coxae black or blackish; posterior tibia mostly infuscated, with a pale yellow streak on inner side just before middle; middle and hind tarsi blackish.

Male.—Essentially like the female; antennae of allotype also 32-segmented; posterior coxae red.

Type-locality.—Alamogordo, New Mexico.

Type, *allotype*, and 10 *paratypes* in Academy of Natural Sciences of Philadelphia, 11 *paratypes* in U. S. Nat. Museum (No. 44081, U. S. N. M.).

Eight females and fifteen males collected in April and May, 1902. The *paratypes* exhibit some color variation, pronotum and mesonotum sometimes becoming more or less testaceous, abdomen occasionally dark reddish rather than reddish yellow, and, rarely, all coxae brownish yellow.

Bassus parvus, new species

Most similar to *annulipes* (Cress.), but differing especially in the black coxae, the lack of longitudinal carinae on propodeum, shorter antennae, strongly oblique areolet of anterior wing, more compact abdomen, and smaller size.

Female.—Length, 2.4 mm. Head, as seen from in front, very short and broad, malar space short and very strongly inclined inwardly; eyes large; face much broader than long; third segment of labial palpus minute, scarcely discernible; antennae about as long as body, 25-segmented; temples swollen opposite middle of eyes; entire head polished.

Thorax a little narrower than head; mesonotum smooth and shining; notauli weakly impressed, punctate posteriorly, scarcely distinct anteriorly; propodeum punctate-rugulose without distinct carinae; mesopleurum polished, its furrow straight, indistinctly punctate; metapleurum shining, rugulose behind; posterior coxae polished; areolet of anterior wing minute, strongly petiolate, and oblique; second intercubitus very weak; mediella distinctly longer than lower abscissa of basella.

Abdomen about as wide as thorax and scarcely longer; first tergite a little longer than broad, closely longitudinally striate, without distinct keels; remainder of abdomen polished; second tergite with a shallow transverse curved impressed line near middle; ovipositor sheaths slender, about one and one-half times as long as abdomen.

Black; palpi piceous; all coxae black; all trochanters and femora brownish black; anterior and middle tibiae brownish; hind tibia blackish on apical half, yellowish basally, with an incomplete dark annulus a little beyond base; wings hyaline; stigma and veins dark brown.

Male.—Like the female in essential characters; antennae likewise 25-segmented.

Type-locality.—Palo Alto, California.

Type.—No. 44082, U. S. N. M.

Three females and one male reared in the Bureau of Entomology by J. M. Miller (*Hopkins* 18244c), from an undetermined host infesting *Cupressus macrocarpa*.

Bassus reticulatus, new species

Very similar to *perforator* (Prov.), but separable by its coarsely rugoso-reticulate propodeum, shorter antennae, which are usually 20 to 22 segmented, and longer ovipositor sheaths, which are fully as long as the body.

Female.—Length, 4 mm. Head rostriform, malar space nearly equal to eye height, nearly vertical; third segment of labial palpus about half as long as second; frons smooth, immargined; antennae but little longer than head and thorax combined, not tapering apically, 21-segmented in type.

Thorax deeper than wide; notauli wanting; mesonotum vertical in front; scutellum immargined; propodeum coarsely rugoso-reticulate, with a sharply defined median longitudinal impression from base to apex; posterior lateral angles of propodeum prominent, and the posterior declivity rather abrupt; side of pronotum faintly reticulate; mesopleurum smooth, its longitudinal furrow smooth; metapleurum minutely punctate or granular and subopaque; areolet triangular, moderately large, short-petiolate; radial cell on wing margin more than half as long as stigma; mediella about equal to lower abscissa of basella; posterior femora and tibiae short and stout.

Abdomen about as wide as thorax and slightly longer; first tergite large, about as broad at apex as long, entirely finely striato-granular, with two prominent longitudinal keels on basal half; second and third tergites transverse, subequal, closely granular and subopaque, each provided with a complete transverse groove at middle that is crossed by numerous longitudinal raised lines; second suture foveolate; third and following tergites smooth.

Honey-yellow; antennae, mesosternum, and propodeum except at apex, blackish; wings slightly brownish; legs mostly reddish yellow; trochanters, bases of anterior and middle femora, middle and posterior tibiae near base and at apex, and all tarsi, brownish black; second and third abdominal tergites with indefinite blackish markings laterally.

Male.—Antennae 22-segmented; otherwise like the type.

Type-locality.—Southern Illinois.

Type.—No. 44083, U. S. N. M.

Three females and one male collected by Charles Robertson. The antennae of both paratypes are 20-segmented and the thorax of one is entirely yellow.

Bassus brevicauda, new species

Most closely resembles *discolor* (Cresson), but differs especially in its shorter ovipositor and entirely black head and thorax.

Female.—Length, 3 mm. Head viewed from in front much broader than long, not rostriform; malar space less than half eye-height; antennae as long as body, slender, 35-segmented; third segment of labial palpus short but distinct; frons polished, immargined; ocell-ocular line slightly longer than postocellar line.

Thorax rather stout; mesoscutum weakly punctate; notauli sharply impressed throughout; scutellum smooth; propodeum mostly horizontal, with only a very short posterior declivity, entirely closely rugulose but without carinae; mesopleura mostly smooth; mesopleural furrow long and distinctly foveolate; metapleura shagreened, opaque; posterior coxae faintly shagreened and subopaque outwardly; areolet of fore wing small, triangular, subpetiolate; radial cell on wing margin less than half as long as stigma; mediella slightly shorter than lower abscissa of basella.

Abdomen scarcely longer than thorax, broadening gradually to apex of third segment; first tergite completely uniformly granular and opaque, without

dorsal keels; second and third tergites much broader than long, sculptured like the first but more weakly, the third smooth at apex; fourth and following tergites polished; ovipositor sheaths not longer than abdomen, ovipositor decurved at apex.

Black; palpi pale; legs including all coxae testaceous; posterior tibia pale yellowish, broadly black at apex and with an incomplete blackish annulus near base; middle tibia weakly infuscated at apex and near base; all tarsi more or less blackish; wings uniformly brownish; second and most of third abdominal tergites reddish yellow; the following also reddish yellow laterally, except the last which is entirely blackish; venter of abdomen testaceous.

Type-locality.—Jefferson County, W. Va.

Type.—No. 44084, U. S. N. M.

Host.—*Coleophora malivorella* Riley.

Two females reared in June and July, respectively, 1931, by Edwin Gould.

ZOOLOGY.—*A new species of Pasiphaea from the Straits of Magellan*.¹

WALDO L. SCHMITT, United States National Museum.

In the course of a brief review of the species of *Pasiphaea*, I thought that the doubts that have been raised from time to time regarding the true identity of *Pasiphaea acutifrons* Doflein and Balss, Mitteil. Nat. Mus. Hamburg, vol. 29, pt. 2, p. 27, fig. 1, should be settled by recourse to the original material. Through the kindness of Dr. A. Panning of the Zoologische Staatsinstitut and Zoologische Museum, Hamburg, Germany the specimens were entrusted to me for study. I find they represent an undescribed species.

Pasiphaea dofleini, new species

Pasiphaea acutifrons Doflein and Balss, Mitteil. Nat. Mus., Hamburg, vol. 29, pt. 2, p. 27, fig. 1. (Not *P. acutifrons* Bate.)

A new species of *Pasiphaea* with very slightly emarginate telson, and non-carinated carapace and abdomen.

The compressed carapace is very little less than half the length of the abdomen and without a trace of a mid-dorsal carina, except as the back of the gastric tooth itself may be called a short carina; the tip of that tooth falls short of the frontal margin. The branchiostegal spine is situated before the angle of the sinus and near the anterior margin of the carapace but does not seem to project beyond it; the branchiostegal sinus is quite shallow.

The acicle inclusive of the spine is nearly half the length of the carapace and exceeds the antennular peduncle by about half the length of the last segment; the latter is about as long as the second and the visible portion of the first, before the eyes, taken together; the second joint is about twice as long as the visible portion of the first; the basal joint of the antenna carries a well developed spine beneath.

The meral joints of the first pair of legs are unarmed on their inferior margins, as are the ischia; the meral joints of the second legs have seven spines below in the type, but from an inspection of other specimens it appears that the count may vary from seven to ten; the basal joints, and the carpi of the second pair of legs are furnished at the infero-distal angle with a sharp

¹ Received May 7, 1932. Published by permission of the Secretary of the Smithsonian Institution.